Table A-26

Quality Control Acceptance Criteria for Method E418.1 — TPH

Water	Soil
RL-Water = 0.05 mg/L	**RL-Soil = 3.2 mg/kg**
Accuracy Water (% R) = 80-120	**Accuracy Soil (%R) = 75-125**
Precision Water (RPD) = ±20	Precision Soil (RPD) = ±20

QC Check	Minimum Frequency	Acceptance Criteria	Corrective Action [a]	Flagging Criteria [b]
Initial calibration (5 standards and a blank)	Daily (prior to sample analysis)	Correlation coefficient (r) > 0.995 Calibration MUST meet acceptance criteria prior to sample analysis.	Identify and repeat outlying point(s); recalculate curve using repeated point(s).	Apply R to all results for specific analyte(s) for all samples associated with the calibration
ICV	Daily following initial calibration	± 10% true value	1) Repeat ICV. 2) If not compliant, evaluate system and correct problem. 3) Repeat initial calibration.	Apply J to positive results and UJ to non-detects all results for specific analyte(s) for all samples associated with the calibration
Continuing calibration verification (CCV)	Daily, before sample analysis, after every 10 samples, and at the end of each batch.	± 10% true value	1) Identify and correct problem. 2) Recalibrate and reanalyze all samples since last valid CCV.	Apply J to positive results and UJ for non-detects for all results for specific analyte(s) for all samples associated with the calibration

QC Check	Minimum Frequency	Acceptance Criteria	Corrective Action [a]	Flagging Criteria [b]
Method blank	1 per analytical batch and per preparation batch	< RL	1) If sample analyte concentration is < RL or if the sample analyte concentration is > 10 times the concentration in the method blank, then report results and annotate in case narrative	Apply U to all results for the specific analyte in all samples in the associated analytical batch if concentration is less than 5 times blank concentration.
			2) If preparative method blank does not meet item 1), re extract/re-analyze if still within HT and enough sample volume; if not within HT or enough sample, contact project chemist for decision.	
Laboratory control sample (LCS)	1 per preparation batch and analytical batch	80-120%	1) If the preparative LCS recovers high outside the acceptance criteria and the analyte is ND, flag the LCS results and annotate in the case narrative.	For specific analyte in all samples in the associated analytical batch: if the LCS %R > UCL, apply J to all positive results
			2) If the preparative LCS fails the acceptance criteria (other than shown in item 1), re-extraction and reanalysis will be necessary if samples are still within holding time and enough sample volume; if not, contact the project chemist for a decision	if the LCS %R < LCL, apply J to all positive results, apply UJ to all non-detects. If LCS <50%, R flag results.

QC Check	Minimum Frequency	Acceptance Criteria	Corrective Action [a]	Flagging Criteria [b]
Matrix spike/matrix spike duplicate (MS/MSD)	One MS/MSD per every 40 samples.	75-125% recovery and RPD < 20%	If the MS and/or MSD is outside of either accuracy or precision tolerances and LCS results are acceptable, flag MS/MSD results and annotate in the case narrative.	For specific analyte in all samples in the associated analytical batch: if the MS/MSD is > UCL, J all hits; if < LCL but greater than 30%, J all hits, UJ all non-detects. If < 30%, R all non-detects and J all hits. If precision outside criteria, J all hits, UJ all non-detects.
MDL study	Once per 12 month period	Detection limits established shall be < 1/2 the RLs in this table.	None	Apply R to all results for specific analyte(s) in all samples analyzed.
Results reported between MDL and RL	None	None	None	Apply J to all results between MDL and RL

[a] All corrective actions associated with project work shall be documented, and all records shall be maintained by the laboratory.

[b] Flagging criteria are applied when acceptance criteria were not met and corrective action was not successful or corrective action was not performed.